

# CATHERINE HWU

## CONTACT

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## EDUCATION

### UNIVERSITY OF CALIFORNIA, BERKELEY

August 2019 - May 2023 (Expected)  
GPA: 4.0 / 4.0

B.S. Electrical Engineering & Computer Science

### LYNBROOK HIGH SCHOOL

August 2015 - June 2019  
GPA: 4.0 / 4.0  
GPA (Weighted): 4.375 / 4.0

## SKILLS

Proficient: Java, Python, Scheme, SQL, Git, IntelliJ, Numpy

Familiar: HTML, CSS, NodeJS

Adobe Creative Suite: Photoshop, Lightroom, InDesign

Art Mediums: Installation, Digital Media, Graphite, Printmaking

## COURSEWORK

### Completed:

The Structure and Interpretation of Computer Programs (CS61A)

Data Structures (CS61B)

Multivariable Calculus (MATH53)

Designing Information Devices and Systems (EE16A, EE16B)

Social Implications of Computer Technology (CS195)

### In Progress:

Computer Architecture (CS61C)

Discrete Mathematics and Probability Theory (CS70)

Principles & Techniques of Data Science (DATA100)

Efficient Algorithms and Intractable Problems (CS170)

## AWARDS

Grace Hopper Celebration GHC 2020 Scholars Program - AnitaB.org  
UC Berkeley Edward Frank Kraft Award  
National Merit Finalist  
AP Scholar with Honor  
Presidential Service Award

## PROFESSIONAL EXPERIENCE

### EDLYFT (YCOMBINATOR W20 STARTUP)

Internship - Mentor for CS61BL (Data Structures) Cohort | May 2020 - Present

- Facilitate weekly lessons to guide a cohort of 10+ students concurrently enrolled in Berkeley's CS61BL Data Structures course
- Oversee weekly office hours and project parties, which has resulted in increased collaboration and improved conceptual understanding among students
- Organize weekly conceptual review and discussion sections, which has led to higher concept retention and increased comfortability with exam-level problems among students
- Spearheaded a 5-module introductory curriculum to equip students for the course

### UC BERKELEY ELECTRICAL ENGINEERING & COMPUTER SCIENCE (EECS)

Academic Intern for CS61BL (Data Structures) | June 2020 - Present

- Identify and clarify students' misconceptions on concepts and daily lab assignments
- Educate students on course concepts (Java, Data Structures, Algorithms) during lab sections
- Teach students how to debug and test their implementations during daily lab sections

### HYGIENE HEROES - HAAS SCHOOL OF BUSINESS PROFESSOR DAVID I. LEVINE

Research Assistant & Game Developer | January 2020 - Present

- Advance Hygiene Heroes mission of educating children in developing countries about important hygiene practices through digital and interactive board games
- Develop a Game Engine program to expedite the game creation process for designers
- Analyze and assess necessary components for user interaction to improve the approachability and accessibility of the Game Engine product

### UC BERKELEY SOCIETY OF WOMEN ENGINEERS (SWE)

SWE++ Co-Chair | May 2020 - Present

Elementary & Middle School Outreach Officer | December 2019 - May 2020

SWE Science Committee Member | September 2019 - December 2019

- Chair a 10-week programming course to teach middle school girls Python and Scratch
- Direct a committee to coordinate Tech Day, a day of engineering activities and workshops
- Provide educational opportunities for students from minority groups and low income families
- Developed a marketing campaign that increased interest for monthly SWE Science events
- Created At-Home Science Curriculum to support STEM education during COVID-19 pandemic
- Launched SWE Science Kits Program to provide over 50 students with science kits

### UC BERKELEY ASSOCIATION OF WOMEN IN EE & CS (AWE)

Operations Officer | December 2019 - Present

- Oversee the budget, reimbursements, and funding processes for thousands of dollars
- Update website to promote club activities to 150+ members and dozens of corporate sponsors
- Redesigned the funding process to help internal departments manage their allocated funds
- Coordinated a Virtual Cal Day Panel for 100+ prospective UC Berkeley students
- Deployed a Slack Bot to track analytics on member attendance and event feedback

## PROJECTS

### PERSONAL WEBSITE AND PORTFOLIO

HTML, CSS | Personal Project | June 2020 - July 2020

- Designed and programmed a personal website to showcase my accomplishments and projects

### HYGIENE HEROES GAME ENGINE

Java, LibGDX | Research Project | January 2020 - Present

- Developed using JAVA and LibGDX to enable deployment on multiple platforms (Web, Mobile)
- Customizes a board game based on a spreadsheet configuration file specifying numerous features (token images, game board, action for each square on the board)

### SLACK BOT FOR ASSOCIATION OF WOMEN IN EE & CS (AWE) WORKSPACE

Slack API, NodeJS, Google Script, HTML | Student Organization Project | April 2020 - Present

- Designed and integrated a Slack Bot to AWE's Slack Workspace using NodeJS and BotKit
- Developed a web app with Google Scripts to collect and write data from the Slack Bot onto a Google Spreadsheet for AWE's internal team
- Slack Bot streamlines the event check in and feedback collection process, allowing officers to monitor event attendance and respond promptly to member suggestions and preferences

### GITLET (MINI VERSION CONTROL SYSTEM)

Java | Class Project | April 2020

- Programmed a mini version control system that mimics the functionality of Git
- Encompassed SHA1 hashing, file persistence, serialization, various data structures, and graph traversals

### LINES OF ACTION BOARD GAME WITH AI

Java | Class Project | April 2020

- Incorporated game trees, the minimax algorithm, and alpha-beta pruning in AI player design
- Devised a heuristic for evaluating the potential of a given board state for a certain player